

# PATENT ABSTRACTS OF JAPAN

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(71)Applicant : CHO SEONG JAE

DAWOON SYSCOM CO LTD

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(72)Inventor : CHO SEONG JAE

## (54) SYSTEM FOR AUTOMATICALLY SWITCHING OPERATION MODE OF MOBILE COMMUNICATION UNIT

(57)Abstract:

PROBLEM TO BE SOLVED: To realize a system that automatically converts various modes of mobile phone, so as to attain the normal operation of the mobile phones as required depending on time through the provision of a function that automatically switches a bell tone into vibration at a place which is to have quietness, a function of reception only at a place at which transmission is inhibited, a function of interrupting a speech of personal communication units as required, and a function of inhibiting transfer of video and data, while not inhibiting a voice speech in order to prevent leakage of information.

SOLUTION: The system is provided with a function that automatically switches a bell tone into vibration at a place at which quiet is to be reigned, a function of phone

call reception only at a place at which transmission is inhibited, a function of interrupting a call of personal communication units as required, and a function of inhibiting transfer of video and data, while not inhibiting a voice call in order to prevent the leakage of information and a function that automatically converts various modes of mobile phones, so as to attain the normal operation of the mobile phones as required depending on time.



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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention installs an indoor mode signal generator in the location which should be more quiet in a detail about a pocket migration transmitter. The general oscillation mode from the above-mentioned indoor mode signal generator, the receiving oscillation mode, message cutoff mode, The signal applicable to an image and data transfer prohibition mode, and a normal mode of operation is discharged. The noise by the thoughtless telephone bell sound or the message sound is prevented by making it switched to the mode in which a pocket migration transmitter corresponds automatically. It is related with the equipment which switches automatically the operating mode of the pocket migration transmitter which enables it to prevent the outflow of the image of the location which requires secrecy, and data information.

[0002]

[Description of the Prior Art] There was a trouble which makes [ sound / bell ] it a pocket migration transmitter also in the location which should be quiet like a church, a concert, a theater, a court, and an educational location irrespective of a location, the cellular phone, PCS (Personal CommunicationSystem), the pocket satellite telephone, and a pocket migration transmitter like a pocket bell having spread, and going recently. Therefore, in order to restrict thoughtless use of a pocket migration transmitter, in the fixed location, the demand which restricts use of a pocket migration transmitter compulsorily is gaining power.

[0003] Jamming is generated as an approach of intercepting so that a pocket migration transmitter may not be made as for a message to the former in a fixed area, and the approach of intercepting the message of a pocket migration transmitter, the approach which will be switched to a telephone bell if the telephone bell of a pocket migration transmitter will be switched to vibration if an electric-wave generating machine is adhered to an entrance and it enters indoors, and it comes out from the interior of a room are developed.

[0004] Since a message tried continuously in order to recognize that a pocket migration transmitter is not a service area and to search a base station when the approach of generating jamming to a pocket migration transmitter also in this intercepted the message function of a pocket migration transmitter completely, it is and the trouble infringe the right of a communication link came to intercept the message function of the above-mentioned pocket migration transmitter, the trouble that dc-battery consumption increases rapidly and a dc-battery time becomes short was.

[0005] Furthermore, since the entrance adhesion mold automatic bell oscillating change-over approach adhered and used for an entrance was switched only to vibration in a bell, it had the following troubles.

\*\* Although a pocket migration transmitter switches to the oscillation mode automatically, there is a trouble that a message sound affects the next man when a user talks over the telephone by appearing in a telephone with an oscillating signal, and since a user can telephone using a pocket migration transmitter, the semantics of the proposal aiming at \*\*\*\* will fade.

\*\* Also when it is switched to vibration at an entrance or a power source is intercepted, there is a trouble

that a user can switch to bell mode at arbitration, or can attach a power source.

**\*\*** In order to operate only at an entrance, if it does not operate even once in the process in which a pocket migration transmitter passes through an entrance, a problem occurs.

i) Since it is not switched to the person who went indoors by the oscillation mode when the power source of a signal generator disappears (when neither interruption of service nor a power source is attached), a problem occurs.

ii) When the user switched to the oscillation mode leaves a room, if the case where the power source of a signal generator disappears does not occur or a pocket migration transmitter is not switched to bell mode by the abnormal operation of a signal generator, a pocket migration transmitter is still the oscillation mode continuously.

**\*\*** The pocket migration transmitter of the person who entered the location in which the signal generator is installed has the trouble which will always be in the condition of the oscillation mode. For example, since it is in the condition of vibration after the public performance or the lecture having not started yet when like [ a concert a theater, a court, a lecture room, etc. ], it becomes too much use limit of a pocket migration transmitter.

**\*\*** When it passes through the entrance in which the power source of a pocket migration transmitter is turned off and the signal generator is installed, there is a trouble used as a bell oscillating change-over.

**\*\*** Since it does not know whether a pocket migration transmitter passes through the entrance in which the signal generator is installed at which time, dc-battery consumption of a pocket migration transmitter becomes excessive with checking a pocket migration transmitter continuously. Namely, since a pocket migration transmitter constitutes a speech path in the call channel of a base station, it checks by receiving a signal with a fixed time interval (2.56-second spacing). By the way, if it passes through an entrance when not receiving for 2.56 seconds, it will not be switched to vibration. By the increment which will be the count which a pocket migration transmitter checks if the time interval which receives a signal is shortened from 2.56 seconds at 0.5 - 1 second in order to solve such a trouble, dc-battery consumption of a pocket migration transmitter increases rapidly.

[0006]

[Problem(s) to be Solved by the Invention] This invention is thought out in order to solve the above troubles. The purpose of this invention It is what was devised in order to conquer such a trouble of an individual pocket communication link. A mode signal generator is installed in the location which should be quiet. From the above-mentioned signal generator to the general oscillation mode The receiving oscillation mode, message cutoff mode, an image, and data transfer prohibition mode, Discharge the signal applicable to a normal mode of operation, and the noise by the thoughtless telephone bell sound or the message sound is prevented by making it switched to the mode in which a pocket transmitter machine corresponds automatically. It is in offering the equipment which switches automatically the operating mode of the pocket migration transmitter which can prevent the outflow of the image of the location which requires secrecy, and data information.

[0007] The general oscillation mode signal with which this invention is installed in the interior of a room of the location which restricts use of a pocket migration transmitter in order to attain the above-mentioned purpose, and a pocket migration transmitter is switched to the oscillation mode from telephone bell mode, The receiving oscillation mode signal switched to the mode whose transmission only reception of is possible at the same time a pocket migration transmitter is switched to the oscillation mode from telephone bell mode, and is impossible, The message cutoff mode signal which switches vibration and a telephone bell to the mode which prevents from operating even if it applies a pocket migration transmitter, The image and data transfer prohibition mode signal which are switched to the mode in which an image and data cannot be transmitted using a pocket migration transmitter, The indoor mode signal generator with which a pocket migration transmitter generates the normal mode-of-operation signal switched to the mode in which normal-actuation is performed; It is installed in the in-and-out path of the location which restricts use of a pocket migration transmitter. The entrance signal generator with which a pocket migration transmitter generates the entrance signal which tells a pocket migration transmitter about having gone indoors; It is installed in the in-and-out path of the location

which restricts use of a pocket migration transmitter. The leaving signal generator with which a pocket migration transmitter generates the leaving signal which tells a pocket migration transmitter about having left a room from the interior of a room; The general oscillation mode signal generated from an indoor mode signal generator where the entrance signal generated from the above-mentioned entrance signal generator is received, and a receiving oscillation mode signal, pocket migration transmitter; which performs automatically actuation applicable to the mode signal received when the message cutoff mode signal, an image and a data transfer prohibition mode signal, and the normal mode-of-operation signal were received -- and The general oscillation mode signal which is not concerned with an entrance signal but is generated from the above-mentioned indoor mode signal generator, Reception of a receiving oscillation mode signal, a message cutoff mode signal, an image and a data transfer prohibition mode signal, and a normal mode-of-operation signal offers the equipment which switches automatically the operating mode of the pocket migration transmitter which consists of a pocket migration transmitter which performs actuation applicable to the received mode signal.

[0008]

[Means for Solving the Problem] Then, the general oscillation mode signal with which it is installed in the interior of a room of the location which restricts use of a pocket migration transmitter, and a pocket migration transmitter is switched to the oscillation mode from telephone bell mode in order that this invention may remove un-[ above-mentioned ] arranging, The receiving oscillation mode signal switched to the mode whose transmission only reception of is possible at the same time a pocket migration transmitter is switched to the oscillation mode from telephone bell mode, and is impossible, The message cutoff mode signal which switches vibration and a telephone bell to the mode which prevents from operating even if it applies a pocket migration transmitter, The image and data transfer prohibition mode signal which are switched to the mode which can perform a voice message while an image and data cannot be transmitted using a pocket migration transmitter, The indoor mode signal generator with which a pocket migration transmitter generates the normal mode-of-operation signal switched to the mode in which normal-actuation is performed; It is installed in the in-and-out path of the location which restricts use of a pocket migration transmitter. The entrance signal generator with which a pocket migration transmitter generates the entrance signal which tells a pocket migration transmitter about having gone indoors; It is installed in the in-and-out path of the location which restricts use of a pocket migration transmitter. The general oscillation mode signal produced from leaving signal generator; and the above-mentioned indoor mode signal generator with which a pocket migration transmitter generates the leaving signal which tells a pocket migration transmitter about having left a room from the interior of a room, If a receiving oscillation mode signal, a message cutoff mode signal, an image and a data transfer prohibition mode signal, and a normal mode-of-operation signal are received, it will consist of a pocket migration transmitter which performs actuation applicable to the received mode signal.

[0009] Moreover, the general oscillation mode signal with which it is installed in the interior of a room of the location which restricts use of a pocket migration transmitter, and a pocket migration transmitter is switched to the oscillation mode from telephone bell mode, The receiving oscillation mode signal switched to the mode whose transmission only reception of is possible at the same time a pocket migration transmitter is switched to the oscillation mode from telephone bell mode, and is impossible, The message cutoff mode signal which switches vibration and a telephone bell to the mode which prevents from operating even if it applies a pocket migration transmitter, The image and data transfer prohibition mode signal which are switched to the mode in which an image and data cannot be transmitted using a pocket migration transmitter, The indoor mode signal generator with which a pocket migration transmitter generates the normal mode-of-operation signal switched to the mode in which normal-actuation is performed; It is installed in the in-and-out path of the location which restricts use of a pocket migration transmitter. The entrance signal generator with which a pocket migration transmitter generates the entrance signal which tells a pocket migration transmitter about having gone indoors; It is installed in the in-and-out path of the location which restricts use of a pocket migration transmitter. The general oscillation mode signal generated from an indoor mode signal generator where the entrance

signal generated from leaving signal generator; and the above-mentioned entrance signal generator with which a pocket migration transmitter generates the leaving signal which tells a pocket migration transmitter about having left a room from the interior of a room is received, and a receiving oscillation mode signal, It consists of a pocket migration transmitter which performs actuation applicable to the mode signal received when the message cutoff mode signal, an image and a data transfer prohibition mode signal, and the normal mode-of-operation signal were received.

[0010]

[Embodiment of the Invention] The function which switches a bell sound to vibration automatically by having invented like \*\*\*\* in the location which should be quiet as for this invention, The function only reception carries out a telephone and it is made to be not possible [ with a location / whose transmission ], Moreover, the function which intercepts the message of individual pocket communication equipment at the time of the need and the function which forbids an image and a data transfer while enabling a voice message, since an informational outflow is prevented, In order to enable normal actuation of a cellular phone by time amount furthermore at the time of the need, it is related with the system which carries out automatic conversion of the various modes of a cellular phone. Although mode signal generation is installed in the interior of a room of the public location which should be quiet in order to attain such a purpose, this mode signal generator transmits the signal by various modes through an antenna, and pocket communication equipment comes to switch it to the mode which judges which mode it is and corresponds in response to this signal. And although a path adhesion mold signal generator is installed in an in-and-out path so that the pocket communication equipment which the electric wave sent out from an indoor mode signal generator comes out to outdoor [ of a public location ], and has it in outdoor may not be affected [ whether this path adhesion mold signal generator entered the interior of a room which should be quiet to pocket communication equipment, and ] Or it comes to tell whether a room was left, and even if the mode is switched automatically and the electric wave of a mode signal generator leaks to outdoor with the mode signal generator which only the pocket communication equipment which entered indoors has indoors, it is made for the pocket communication equipment in outdoor not to be influenced. The mode signal generator installed indoors generates the signal which forbids the signal switched to general vibration, the signal switched to reception vibration, the signal which intercepts a message, an image, and data, and the signal which carries out normal actuation, and it is made for pocket communication equipment to have the mode automatically switched by this signal. The general oscillation mode is the oscillation mode at the time of usual, and as it changes a telephone bell only into vibration, it can telephone here. Mean the condition that it can also receive and the receiving oscillation mode makes a telephone bell vibration. When the telephone call has been got, a user's voice of the thing which enables it to hear the voice of the person who telephoned as only reception was carried out is made not to be transmitted, and a telephone says the approach prevent from applying. And when the signal which carries out normal actuation is received, or the power source of an indoor signal generator is turned off and there is no signal, pocket communication equipment comes to perform normal actuation.

[0011]

[Example] Hereafter, it is as follows when an attached drawing is explained to reference.

[0012] Drawing 2 is a drawing in which the equipment which switches automatically the operating mode of the pocket migration transmitter by this invention is shown. Drawing 1 is the block diagram showing roughly the structure of the indoor mode signal generator shown in drawing 2 . Drawing 3 is the block diagram showing the structure of the pocket transmitter machine shown in drawing 2 in a detail. Drawing 4 is a drawing in which the equipment with which the pocket transmitter machine by this invention checks entrance into a room and a leaving signal is shown roughly. Drawing 5 (a) is the block diagram showing the equipment which generates an entrance signal in the pocket transmitter machine shown in drawing 4 . Drawing 5 (b) is the block diagram showing the equipment which generates a leaving signal in the pocket transmitter machine shown in drawing 4 , drawing 6 is the block diagram showing roughly time-sharing path adhesion mold signal generation equipment, and drawing 7 is a drawing in which the time-sharing structure of the signal generated from the time-sharing path

adhesion mold signal generation equipment of drawing 6 is shown.

[0013] Explanation of the equipment which switches the operating mode of a pocket migration transmitter automatically with reference to drawing 1 - drawing 7 installs the indoor mode signal generator 100 which generates a general oscillation mode signal, a receiving oscillation mode signal, a message cutoff mode signal, an image, a data transfer prohibition mode signal, and a normal mode-of-operation signal in the interior of a room of the location which restricts use of a pocket migration transmitter first. If the pocket migration transmitter 200 receives the mode signal generated from the above-mentioned indoor mode signal generator 100, the pocket migration transmitter 200 will perform actuation applicable to the received mode signal.

[0014] As the above-mentioned indoor mode signal generator 100 was shown in drawing 1 and drawing 2 If one of the modes is chosen through the input unit 101 which constitutes the indoor mode signal generator 100 among the general oscillation mode and receiving oscillation mode, communication link cutoff mode, an image, data transfer prohibition mode, and a normal mode of operation Either is impressed to a controller 102 among the general oscillation mode signal applicable to the selected mode, a receiving oscillation mode signal, a message cutoff mode signal, an image, a data transfer prohibition mode signal, and a normal mode-of-operation signal. It is made for the above-mentioned controller 102 to have the mode chosen among the general oscillation mode and receiving oscillation mode, message cutoff mode, an image, data transfer prohibition mode, and a normal mode of operation displayed by the indicating equipment 103 with the signal impressed from the input unit 101. It turns out that the user of the pocket migration transmitter which is indoors through the above-mentioned display 103 is in the use limit area of the pocket migration transmitter 200.

[0015] Furthermore, after the above-mentioned controller 102 changes into a RF signal this after altering into a RF the mode signal chosen by driving the alteration section 104 and amplifies it through the RF transducer 105, it comes to transmit a signal through an antenna 106. It comes to impress the mode signal transmitted through the above-mentioned antenna 106 after the pocket migration transmitter 200.

[0016] Drawing 3 is the detail block diagram of the pocket migration transmitter 200, and explains actuation of a pocket migration transmitter.

[0017] If it goes into the location whose pocket migration transmitter 200 should be quiet, the signal generated from the indoor mode signal generator 100 will be detected by the signal detecting element 201 of the pocket migration transmitter 200, and it will come to input it into a controller 202. Under the present circumstances, only when the above-mentioned controller 202 continues and checks the signal impressed through the signal detecting element 201, and switches the mode of the pocket migration transmitter 200, or a controller 202 tends to require a telephone or it is going to telephone, it checks the mode signal first received through the signal detecting element 201, and can operate with applicable mode.

[0018] If the signal detected from the above-mentioned signal detecting element 201 is a 'general oscillation mode signal', a controller 202 will be made to perform actuation in which the pocket migration transmitter 200 corresponds to the general oscillation mode. When getting a telephone call by the general oscillation mode, the above-mentioned controller 202 controls the oscillating drive circuit 204 which does not send a signal to the telephone bell drive circuit 205, but drives vibration or a lamp, controls vibration or a lamp (vibration is called hereafter), and comes to tell a user about it.

[0019] If the signal detected from the above-mentioned signal detecting element 201 is a 'receiving oscillation mode signal', a controller 202 will be made to perform actuation in which the pocket migration transmitter 200 corresponds to the receiving oscillation mode. Every time the above-mentioned controller 202 removes a keying signal required for message reception among the keying signals inputted from an input unit 203 in the condition of being the receiving oscillation mode, and the keying signal in connection with this, it is disregarded altogether, and a user prevents from telephoning. Under the present circumstances, if a telephone call is got, a controller 202 will stop the telephone bell drive circuit 205 in response to a signal from the pocket communication link receive section 211. If the oscillating drive circuit 204 is controlled, vibration is operated and the input for message reception enters from an input unit 203, a controller 202 will drive the 1st memory 213 of between short time



amount. The 1st voice-told message (for example, : 'now, even if it talks, it cannot tell') stored is outputted, and it is impressed by 1st D/A converter 214. After the signal impressed to 1st D/A converter 214 of the above is changed into an analog, by being outputted to a loudspeaker 215 through 1st multi pre KISA 212, a user can only receive and the 1st voice-told message that transmission is impossible can be heard. Then, the above-mentioned controller 202 controls 1st multi pre KISA 212 to choose the voice of the partner received through the pocket communication link receive section 211.

[0020] and the 2nd voice-told message (for example, : -- ', although it cannot talk now since it is in a message limit area) stored by intercepting the sound signal which was inputted through the microphone 209 and amplified by the magnification machine 210, and driving the 2nd memory 207 'which can hear a partner's voice is made to output and 2nd multi pre KISA 206 is also made to operate so that the signal changed into the analog sound signal through 2nd D/A converter 208 may be chosen. If it does so, the signal outputted from 2nd multi pre KISA 206 will be inputted into the pocket communication link transmitting section 216, and will come to be transmitted to a partner. After transmitting the 2nd voice-told message through the above-mentioned pocket communication link transmitting section 216, a controller 202 drives 2nd multi pre KISA 206, and chooses touch-down (ground). If above-mentioned 2nd multi pre KISA 206 comes to choose touch-down, a cell phone user's voice inputted through the microphone 209 will not be transmitted to a partner.

[0021] Under the present circumstances, the keying signal which corresponds through an input unit 203 by the 'receiving oscillation mode' in order to display that voice is asked to the partner in the middle of message reception is inputted. If a keying signal is inputted through the above-mentioned input unit 203, a controller 202 will make the 3rd voice-told message (: and no [ 'no' ], 'yes', for example, 'it is heard') stored in the 2nd memory 207 output. The signal applicable to the 3rd message outputted from the 2nd memory 207 of the above is changed into an analog sound signal through 2nd D/A converter 208, and the above-mentioned controller 202 makes 2nd multi pre KISA 206 operate so that the sound signal with which 2nd multi pre KISA 206 corresponds to the 3rd voice-told message may be chosen. if for example, the '1' key is pressed during message reception -- ' -- it is -- ' -- if a message is transmitted, a 'no' message will be transmitted if the '2' keys are pressed, and the '3' keys are pressed -- ' -- messages, such as 'currently heard, can be transmitted.

[0022] And when the pocket communication link transmitting section transmits voice in digital one, since the voice-told message stored in the 1st memory 213, the 2nd above-mentioned memory 207, and the 3rd above-mentioned memory 217 is digital data, 1st above-mentioned D/A converter 214, 2nd D/A converter 208, and 3rd D/A converter 218 do not need it. Moreover, above-mentioned 2nd multi pre KISA 212 and 2nd multi pre KISA 206 can be embodied for not analog multi-pre KISA but digital multi-pre KISA, or software. Furthermore, after the sound signal inputted from the above-mentioned microphone 209 is changed into digital vibration through the A/D-conversion machine built in the pocket communication link transmitting section 216 after passing through the magnification machine 210, it comes to be chosen as digital multi-pre KISA or software.

[0023] On the other hand, if the signal detected through the above-mentioned signal detecting element 201 is a 'message cutoff mode signal', a controller 202 will be made to perform actuation to which the pocket migration transmitter 200 corresponds to message cutoff mode. the 4th voice-told message (for example, : -- ' -- now, since it is in a message cutoff area, it cannot appear in a telephone.) which the above-mentioned controller 202 will not drive the telephone bell driving gear 205 and the signal driving gear 204 if a signal is received through the pocket communication link receive section 211 in the condition of being in message cutoff mode, but drives the 3rd memory 217, and is memorized by the 3rd memory 217 please speak about a message and the telephone number -- 'is outputted and it is impressed by 3rd D/A converter 218. 3rd D/A converter 218 of the above changes the signal applicable to the 4th impressed voice-told message into an analog signal, and the signal which the above-mentioned controller 202 drives 2nd multi pre KISA 206, and corresponds to the 4th voice-told message is transmitted to a partner through the pocket communication link transmitting section 216. Furthermore, the above-mentioned controller 202 drives a power supply unit 219, and can also intercept the power source of all the parts except the signal detecting element 201, an input unit 203, a controller 202, etc.

[0024] If the signals detected through the above-mentioned signal detecting element 201 are 'an image and a data transfer prohibition mode signal', a controller 202 will be made to perform actuation in which the pocket migration transmitter 200 corresponds to an image and data transfer prohibition mode. In order that the above-mentioned controller 202 may intercept the digital data inputted through the data input edge 221 in the condition of being in an image and data transfer prohibition mode, 3rd multi pre KISA 220 chooses touch-down. If above-mentioned 3rd multi pre KISA 220 comes to choose touch-down, digital data will not be impressed to the pocket communication link transmitting section 216 through the data input edge 221. Furthermore, in order to intercept the video signal inputted through the image input edge 224, and the video signal outputted from the camera 223 built in, 4th multi pre KISA 222 chooses touch-down. If above-mentioned 4th multi pre KISA 222 comes to choose touch-down, the video signal inputted through the image input edge 224 will not be impressed to the pocket communication link transmitting section 216.

[0025] Moreover, although the user of the pocket migration transmitter 200 chooses an image and data transfer mode through an input device 203 in the condition that the pocket migration transmitter 200 is in an image and data transfer prohibition mode, with 'the image and data transfer prohibition mode signal' into which the controller 202 was inputted from the indoor mode signal generator 100 through the signal detecting element 201, above-mentioned 3rd multi pre KISA 220 and 4th multi pre KISA 222 choose touch-down. Under the present circumstances, the voice inputted from a microphone 209 drives 2nd multi pre KISA 206 so that it may be transmitted to the pocket communication link transmitting section 216 through an amplifier 210, and a voice message is enabled also in an image and data transfer prohibition mode.

[0026] Furthermore, if a 'normal mode-of-operation signal' is not detected, or a user moves the above-mentioned controller 202 to outdoor through the signal detecting element 201 and mode signals, such as a general oscillation mode signal, a receiving oscillation mode signal, a message cutoff mode signal, an image, and a data transfer prohibition mode signal, are not detected through the signal detecting element 201, the pocket migration transmitter 200 is made to perform normal actuation.

[0027] Although the mode signal produced from the indoor mode signal generator 200 which is installed indoors and, on the other hand, generates a general signal mode signal, a receiving oscillation mode signal, a message cutoff mode signal, an image, a data transfer prohibition mode signal, and a normal mode-of-operation signal may have various approaches, there are the approach of differing in a frequency, for example with each mode signal, an approach using a digital code, and the approach of differing in the frequency transmitted.

[0028] For example, with each mode, the approach of differing in a frequency can be performed like 500Hz, if it is a normal mode-of-operation signal, it is 100Hz and a general oscillation mode signal, it is 200Hz and a receiving oscillation mode signal, it is 300Hz and a message cutoff mode signal and it is 400Hz, an image, and a data transfer prohibition mode signal.

[0029] If the approach using a digital code is for example, a normal mode-of-operation signal, they are the digital code 0011 and a general oscillation mode signal, they are 0101 and a receiving oscillation mode signal, they are 0110 and a message cutoff mode signal and they are 1010, an image, and a data transfer prohibition mode signal, it can assign a code like 1100 and can perform it.

[0030] The approach of differing in the frequency transmitted is the approach of differing in the wireless RF frequency transmitted, for example, with each mode, if it is a normal mode-of-operation signal, they are 300.000MHz and a general oscillation mode signal, they are 300.010MHz and a receiving oscillation mode signal, they are 300.020MHz and a message cutoff mode signal and they are 300.030MHz, an image, and a data transfer prohibition mode signal, it can be performed like 300.040MHz.

[0031] on the other hand, it says whether to make it one of the modes among the general oscillation mode and receiving oscillation mode, message cutoff mode, an image and data transfer prohibition mode, or a normal mode of operation -- choosing -- it can choose suitably, and the two or more modes can be chosen as coincidence, and can also be made to operate by the property of an indoor location, the purpose of use, and time amount (for example, public performance time amount, worship time amount, etc.)



[0032] If other examples of this invention are explained with reference to drawing 4 and drawing 5, the pocket migration transmitter which mode vibration produced from the indoor mode signal generator 100 leaks to outdoor, and is in outdoor can also be influenced. Therefore, it must be made for the pocket migration transmitter located in the area which escaped from the field which restricts use of the pocket migration transmitter 200 not to be influenced of the mode signal produced from the gray goods 100 from indoor mode. As shown in drawing 4, the path adhesion blocking room signal generator 300 which generates the entrance signal which tells having gone into the pocket migration transmitter 200 indoors inside an in-and-out path is installed, and the path adhesion mold leaving signal generator 400 which generates the leaving signal which tells having appeared in the pocket migration transmitter 200 outdoor is installed in the outside of an in-and-out path.

[0033] While the pocket migration transmitter 200 passes through an entrance, the entrance signal and leaving signal which are produced from the above-mentioned entrance signal generator 300 and the leaving signal generator 400. The general oscillation mode signal produced from the indoor mode signal generator 100 only after it came to receive and the above-mentioned pocket migration transmitter 200 has received the entrance signal, The pocket migration transmitter 200 is switched to the mode applicable to the mode signal received when one of signals was received among a receiving oscillation mode signal, the message cutoff mode signal, the image, the data transfer prohibition mode signal, and the normal mode-of-operation signal. The above-mentioned path adhesion blocking room signal generator 300 and the leaving signal generator 400 are constituted like drawing 5 (a) and drawing 5 (b).

[0034] Although the above-mentioned path adhesion blocking room signal generator 300 differs from the leaving signal generator 400 in the indoor mode signal generator 100 and it does not have an input unit and a display, the reason is that there is no matter changed since it is what only offers entrance information and leaving information, the fixed signal is continued, and it generates. After the entrance signal produced from entrance signal generator 301a is altered through the alteration section 302, by the RF transducer 303, it is changed into a RF signal, is amplified, and transmits a signal to the pocket migration transmitter 200 through an antenna 304. Furthermore, after the leaving signal produced from leaving signal generator 301b is altered through the alteration section 302, by the RF transducer 303, it is changed into a RF signal, is amplified, and transmits a signal to the pocket migration transmitter 200 through an antenna 304.

[0035] When a user moves indoors, the entrance signal produced from the path adhesion blocking room signal generator 300 installed inside the entrance is detected by the signal detecting element 201 of the pocket migration transmitter 200, it comes to tell a controller 202 about this, and the above-mentioned controller 202 comes to memorize the fact of going into the location which should be quiet now, in internal memory. Conversely, when a user moves to outdoor, the leaving signal produced from the path adhesion mold leaving signal generator 400 installed in the outside of an entrance is detected by the signal detecting element 201, it comes to tell a controller 202 about this, and the above-mentioned controller 202 comes to memorize the fact which comes out from the location which should be quiet now, and is present in a general location in internal memory. Thus, the mode comes to be automatically switched by the mode signal which produces only the pocket migration transmitter 200 which enters indoors from the indoor mode signal generator 100.

[0036] Although the embodiment approach is various and being obtained by whether what on the other hand we do with the configuration of the signal which the above-mentioned indoor mode signal generator 100, a path adhesion blocking room, and the leaving signal generator 300,400 generate, only four approaches are explained as an example here.

[0037] First, most, although an eye is used on the frequency which has the frequency of the signal which the indoor mode signal generator 100, a path adhesion blocking room, and the leaving signal generator 300,400 generate, it is the approach of differing in and using a code and using it by one channel.

[0038] Although it is the approach the second differs in and sets up the frequency of the indoor mode signal generator 100, a path adhesion blocking room, and the leaving signal generator 300,400, and it is made not to have a mutual intervention, the indoor mode signal generator 100 is the approach of generating 300MHz, setting the frequency of a path adhesion blocking room and the leaving signal

generator 300,400 to 300.1MHz, and losing interference with an indoor mode signal generator and a path adhesion mold signal generator, for example. Under the present circumstances, it comes to classify the entrance signal generator 300 and the leaving signal generator 400 in code.

[0039] Although the third is the approach of differing in all the frequencies of the indoor mode signal generator 100, the path adhesion blocking room signal generator 300, and the path adhesion mold leaving signal generator 400, the frequency of the indoor mode signal generator 100 is set to 300MHz, for example, and the path adhesion blocking room signal generator 300 is the approach of setting 300.1MHz and the path adhesion mold leaving signal generator 400 to 300.2MHz.

[0040] Although one frequency is used for the fourth approach, it is an approach using the time-sharing (Time Division) method which divides and uses time amount. Although the time amount used mutually must be defined in order to divide time amount, the controller 202 of the indoor mode signal generator 100 divides time amount by the approach of embodying this, the signal generation time amount of the indoor mode signal generator 100, the signal generation time amount of the path adhesion blocking room signal generator 300, and the signal generation time amount of the path adhesion mold leaving signal generator 400 are defined, cable connection of this is carried out, and it is made to operate.

[0041] By the way, although there is the approach of making it into wireless since it is inconvenient if it comes to carry out cable connection, the block diagram of the path adhesion blocking room for it and a leaving signal generator is shown in drawing 6. When drawing 6 and drawing 7 are seen, I hear that there is not a different point of 305 signal detecting element from drawing 5 (a) and drawing 5 (b), and there is. If the indoor mode signal generator 100 is first generated between fixed time amount which was able to define the applicable mode signal, as soon as the signal detecting element 305 of the path adhesion blocking room signal generator 300 will detect this mode signal, when a mode signal is completed after defined fixed time amount passes, it comes to generate between fixed time amount which was able to define the entrance signal. On the other hand, as soon as the path adhesion mold leaving signal generator 400 also detects a mode signal by the signal detecting element 305, when a mode signal is completed and an entrance signal is also ended after defined fixed time amount passes, it comes to be generated between fixed time amount which was able to define the leaving signal. If it does so, after fixed time amount passes, again, the indoor mode signal generator 100 comes to generate a mode signal again, when a leaving signal is completed, henceforth, will continue the signal which repeats the above-mentioned actuation and has time-sharing structure like drawing 7, and will come to be generated. Then, although pocket communication equipment must classify which signals are an entrance signal, a leaving signal, and a mode signal, it comes to classify this through a code or a frequency. For example, 50Hz and a leaving signal can be set to 75Hz with applicable mode, and an entrance signal can set a mode signal to 100Hz, 200Hz, 300Hz, 400Hz, and 500Hz, and can be classified.

[0042] When the pocket migration transmitter 200 will come to acquire the information included in the interior of a room of a public location that it goes into the interior if it is not rich, a leaving signal is received and an entrance signal is received later, it receives an entrance signal first conversely and receives a leaving signal later, it comes to turn out that it came out outside. Thus, it is made only for the pocket migration transmitter which entered a room to operate with the mode signal of an indoor mode signal generator, and outdoor pocket communication equipment comes to prevent being influenced.

[0043] On the other hand, the indoor mode signal generator 200 may be used with a path adhesion blocking room and the leaving signal generator 300,400, and must operate independently in the location in which neither field space without an entrance nor an entrance can be installed.

[0044] Then, when the indoor mode signal generator 200 is used independently, since the pocket migration transmitter 200 cannot check entrance into a room, it operates with what is outside and has a trouble used as a mode change-over.

[0045] In order to solve the above-mentioned trouble, it is necessary to classify the case where it is used with the case where the indoor mode signal generator 100 uses it independently, a path adhesion blocking room, and the leaving signal generator 300,400.

[0046] The mode signal of a signal generator must make two signals generate for every applicable mode

for such a reason. In normal actuation, in the case of 100Hz, 600Hz, and a general signal, for example, 200Hz and 700Hz, In reception vibration, in 300Hz, 800Hz, and message cutoff, 400Hz and 900Hz, In coming to generate 500Hz and 1kHz in an image and against data transfer, but using it with an entrance adhesion mold, with applicable mode 100Hz, 200Hz, 300Hz, 400Hz, and 500Hz are generated, and in using it independently, it generates 600Hz, 700Hz, 800Hz, 900Hz, and 1kHz with the mode. In order to classify the case where it is used independently, of course, and the case where it is used with an entrance adhesion mold, five another keys can be added or the key for classifying whether it is independent can be prepared according to one piece.

[0047] It is made to operate, only when it comes to be switched to applicable mode, 100Hz, 200Hz, 300Hz, 400Hz, and 500Hz were detected and an entrance check is performed, even if an entrance check will not be performed, if it does so and pocket communication equipment will detect 600Hz, 700Hz, 800Hz, 900Hz, and 1kHz.

[0048] By doing in this way, it can be concerned and used now for the existence of an entrance.

[0049] And it can differ in the frequency of the signal of the above-mentioned path adhesion blocking room signal generator 300 and the leaving signal generator 400, and the signal of the indoor mode signal generator 100, the detecting element which detects the mode signal which produces the signal detecting element 210 of the pocket migration transmitter 200 from the detecting element which detects a path adhesion blocking room and a leaving signal, and the indoor mode signal generator 300 can be constituted independently, and interference between signals can be prevented.

[0050] Furthermore, the signal discharged through the above-mentioned indoor mode signal generator 100, the path adhesion blocking room signal generator 300, and the leaving signal generator 400 can use the control channel of pocket communication equipment, and can use another frequency for another signal, using the frequency band of the control channel of the pocket migration transmitter 200, and a message channel.

[0051] Moreover, the mode signal discharged through the interior of a room and path adhesion mold signal generation equipment can use light, such as acoustic waves, such as a supersonic-wave, super-low acoustic wave, and audible-sound wave, and infrared radiation, or magnetism like a magnet instead of an electromagnetic wave.

[0052]

[Effect of the Invention] In use of an individual pocket communication link, the arrival-of-the-mail bell sound of an individual pocket communication link can be switched to vibration, or this invention can solve the social concern point which intercepts a message and may be produced by thoughtless use of a pocket communication link, and can prevent the thoughtless image and the data transfer in the location which needs security, such as a country Kioritz lab, industrial installation, a lab, and a military-authorities party, in the location which should be quiet from now on. The trouble generated from the existing jamming evolution method, an entrance adhesion mold automatic bell oscillating change-over, etc. is solvable.

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[Translation done.]

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CLAIMS

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[Claim(s)]

[Claim 1] The general oscillation mode signal with which it is installed in the interior of a room of the location which restricts use of a pocket migration transmitter, and a pocket migration transmitter is switched to the oscillation mode from telephone bell mode, The receiving oscillation mode signal switched to the mode whose transmission only reception of is possible at the same time a pocket migration transmitter is switched to the oscillation mode from telephone bell mode, and is impossible, The message cutoff mode signal which switches vibration and a telephone bell to the mode which prevents from operating even if it applies a pocket migration transmitter, The image and data transfer prohibition mode signal which are switched to the mode which can perform a voice message while an image and data cannot be transmitted using a pocket migration transmitter, The indoor mode signal generator with which a pocket migration transmitter generates the normal mode-of-operation signal switched to the mode in which normal-actuation is performed; It is installed in the in-and-out path of the location which restricts use of a pocket migration transmitter. The entrance signal generator with which a pocket migration transmitter generates the entrance signal which tells a pocket migration transmitter about having gone indoors; It is installed in the in-and-out path of the location which restricts use of a pocket migration transmitter. The general oscillation mode signal produced from leaving signal generator; and the above-mentioned indoor mode signal generator with which a pocket migration transmitter generates the leaving signal which tells a pocket migration transmitter about having left a room from the interior of a room, Equipment which switches automatically the operating mode of the pocket migration transmitter which consists of a pocket migration transmitter which performs actuation which corresponds to the received mode signal if a receiving oscillation mode signal, a message cutoff mode signal, an image and a data transfer prohibition mode signal, and a normal mode-of-operation signal are received.

[Claim 2] The above-mentioned indoor mode signal generator The general oscillation mode and receiving oscillation mode, message cutoff mode, The display with which the mode chosen through the input-device; above-mentioned input device from which an image, data transfer prohibition mode, and the modes, such as a normal mode of operation, are chosen is displayed; The mode signal impressed from the above-mentioned input device is impressed to the alteration section. After changing into a RF signal this after altering into a RF the mode signal chosen by driving the above-mentioned alteration section and amplifying it through RF transducer, Equipment which switches automatically the operating mode of the pocket migration transmitter according to claim 1 characterized by consisting of a controller which continues a signal through an antenna and is transmitted.

[Claim 3] It is equipment switch automatically the operating mode of the pocket migration transmitter according to claim 1 characterize by the thing about which the oscillating drive circuit 204 which does not send a signal to the telephone bell drive circuit 205, but drives vibration or a lamp controls, and a user tells by vibration when a controller 202 will require a telephone, if the signal detected from the signal detecting element 201 of the above-mentioned pocket migration transmitter is a 'general oscillation mode signal'.

[Claim 4] If the signal detected from the signal detecting element 201 of the above-mentioned pocket migration transmitter is a 'receiving oscillation mode signal' The inside of the keying signal into which a controller 202 is inputted from an input unit 203, All are disregarded if a keying signal required for message reception and the keying signal in connection with this are removed. If a user prevents from telephoning and a telephone call is got, in response to a signal, the telephone bell drive circuit 205 will be stopped from the pocket communication link receive section 211. If the oscillating drive circuit 204 is controlled, vibration is operated and the input for message reception enters from an input unit 203, a controller 202 will drive the 1st memory 213 of between short time amount. It is equipment which the 1st voice-told message stored is outputted, and a user can only receive, and switches automatically the operating mode of the pocket migration transmitter according to claim 1 characterized by enabling it to hear the 1st voice-told message that transmission is impossible.

[Claim 5] If the signal detected from the signal detecting element 201 of the above-mentioned pocket migration transmitter is a 'receiving oscillation mode signal' When 2nd multi pre KISA 206 chooses touch-down, a controller 202 A sound signal is intercepted so that a cell phone user's voice inputted through the microphone 209 may not be transmitted to a partner. Equipment which switches automatically the operating mode of the pocket migration transmitter according to claim 1 characterized by driving the 2nd memory 207, making the 2nd voice-told message of being in a current message limit area output, and making it transmitted to a partner through the pocket communication link transmitting section 216.

[Claim 6] If the signal detected from the signal detecting element 201 of the above-mentioned pocket migration transmitter is a 'receiving oscillation mode signal' If the keying signal which corresponds through an input unit 203 is inputted in order to display that voice is asked to the partner, and a keying signal is inputted through the above-mentioned input unit 203 in the middle of message reception, a controller 202 it is stored in the 2nd memory 207 -- ' -- it is -- 'and no [ 'no' ] -- ' -- the equipment which switches automatically the operating mode of the pocket migration transmitter according to claim 1 characterized by making the 3rd voice-told message, such as 'currently heard, output, and transmitting to a partner through the pocket transmitting section 216.

[Claim 7] if the signal detected through the signal detecting element 201 of the above-mentioned pocket migration transmitter is a 'message cutoff mode signal', if a signal is received through the pocket communication link receive section 211, a controller 202 does not drive the telephone bell driving gear 205 and the signal driving gear 204, but drives the 3rd memory 217, and is memorized by the 3rd memory 217 -- ' -- since it is in a message cutoff area, it cannot appear in a telephone now. please speak about a message and the telephone number -- the equipment which switches automatically the operating mode of the pocket migration transmitter according to claim 1 characterize by the thing which outputted the 4th voice-told message ', were transmitted to the partner , or drove the power supply unit 219 through the pocket mobile communication transmitting section 216 , and removed the signal detecting element 201 , the input unit 203 , the controller 202 , etc. , and for which the power source of a part is all intercept .

[Claim 8] If the signals detected through the signal detecting element 201 of the above-mentioned pocket migration transmitter are 'an image and a data transfer prohibition mode signal' If 3rd multi pre KISA 220 chooses touch-down and above-mentioned 3rd multi pre KISA 220 comes to choose touch-down in order that a controller 202 may intercept the digital data inputted through the data input edge 221 The digital data inputted through the data input edge 221 is equipment which switches automatically the operating mode of the pocket migration transmitter according to claim 1 characterized by not being impressed by the pocket communication link transmitting section 216.

[Claim 9] If the signals detected through the signal detecting element 201 of the above-mentioned pocket migration transmitter are 'an image and a data transfer prohibition mode signal' In order that a controller 202 may intercept the video signal inputted through the image input edge 224, and the video signal outputted from the camera 223 built in, 4th multi pre KISA 222 chooses touch-down. The video signal which will be inputted through the image input edge 224 if above-mentioned 4th multi pre KISA 222 comes to choose touch-down is equipment which switches automatically the operating mode of the

pocket migration transmitter according to claim 1 characterized by not being impressed by the pocket communication link transmitting section 216.

[Claim 10] The above-mentioned controller 202 is equipment which switches the operating mode of the pocket migration transmitter of a publication to claims 8 and 9 characterized by for the voice inputted from the microphone 209 driving 2nd multi pre KISA 206 so that it may be transmitted to the pocket communication link transmitting section 216 through the magnification machine 210, and enabling a voice message also in an image and data transfer prohibition mode automatically.

[Claim 11] The above-mentioned controller 202 leads the signal detecting element 201. A 'normal mode-of-operation signal' is detected, or A user moves to outdoor and the signal detecting element 201 is led. Or a general oscillation mode signal, Equipment which switches automatically the operating mode of the pocket migration transmitter according to claim 1 characterized by the pocket migration transmitter 200 performing normal actuation if mode signals, such as a receiving oscillation mode signal, a message cutoff mode signal, an image, and a data transfer prohibition mode signal, are not detected.

[Claim 12] The above-mentioned controller 202 according to claim 1 is equipment which continues and checks the signal impressed through the signal detecting element 201, and switches the operating mode of a pocket migration transmitter automatically with a mode signal.

[Claim 13] The above-mentioned controller 202 according to claim 1 is equipment which checks the mode signal first received through the signal detecting element 201 only when a telephone call tends to be got or it is going to telephone, and switches the operating mode of a pocket migration transmitter automatically with applicable mode.

[Claim 14] The general oscillation mode signal with which it is installed in the interior of a room of the location which restricts use of a pocket migration transmitter, and a pocket migration transmitter is switched to the oscillation mode from telephone bell mode, The receiving oscillation mode signal switched to the mode whose transmission only reception of is possible at the same time a pocket migration transmitter is switched to the oscillation mode from telephone bell mode, and is impossible, The message cutoff mode signal which switches vibration and a telephone bell to the mode which prevents from operating even if it applies a pocket migration transmitter, The image and data transfer prohibition mode signal which are switched to the mode in which an image and data cannot be transmitted using a pocket migration transmitter, The indoor mode signal generator with which a pocket migration transmitter generates the normal mode-of-operation signal switched to the mode in which normal-actuation is performed; It is installed in the in-and-out path of the location which restricts use of a pocket migration transmitter. The entrance signal generator with which a pocket migration transmitter generates the entrance signal which tells a pocket migration transmitter about having gone indoors; It is installed in the in-and-out path of the location which restricts use of a pocket migration transmitter. The general oscillation mode signal generated from an indoor mode signal generator where the entrance signal generated from leaving signal generator; and the above-mentioned entrance signal generator with which a pocket migration transmitter generates the leaving signal which tells a pocket migration transmitter about having left a room from the interior of a room is received, and a receiving oscillation mode signal, Equipment which switches automatically the operating mode of the pocket migration transmitter which consists of a pocket migration transmitter which performs actuation applicable to the mode signal received when the message cutoff mode signal, an image and a data transfer prohibition mode signal, and the normal mode-of-operation signal were received.

[Claim 15] The mode signal discharged from the above-mentioned indoor mode signal generator 100, the path adhesion blocking room signal generator 300, and the leaving signal generator 400 be equipment which switch automatically the operating mode of the pocket migration transmitter according to claim 14 characterized by use light, such as acoustic waves, such as a supersonic wave, super-low acoustic wave, and audible sound wave, and infrared radiation, or magnetism like a magnet instead of an electromagnetic wave.

[Claim 16] It differs in the frequency of the signal of the above-mentioned path adhesion blocking room signal generator 300 and the leaving signal generator 400, and the signal of the indoor mode signal



generator 100. The detecting element which detects a path adhesion blocking room and a leaving signal for the signal detecting element 210 of the pocket migration transmitter 200, and the detecting element which detects the mode signal which arises from the indoor mode signal generator 300 are constituted independently. Equipment which switches automatically the operating mode of the pocket migration transmitter according to claim 14 characterized by performing preventing interference between signals.

[Claim 17] The signal produced from the indoor mode signal, entrance signal generator, and leaving signal generator which are produced from the above-mentioned indoor mode signal generator is equipment which switches automatically the operating mode of the pocket migration transmitter according to claim 14 characterized by having time-sharing structure.

[Claim 18] The signal discharged through the above-mentioned indoor mode signal generator, a path adhesion blocking room, and a leaving signal generator is equipment which switches automatically the operating mode of the pocket migration transmitter according to claim 14 characterized by being able to use the control channel of pocket communication equipment, and using another signal through the frequency band of the control channel of pocket communication equipment, and a message channel, or using another frequency.

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[Translation done.]

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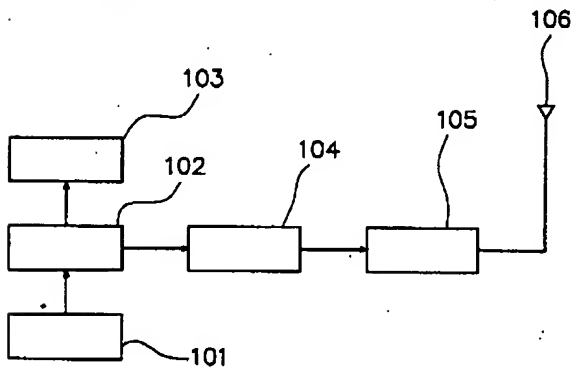
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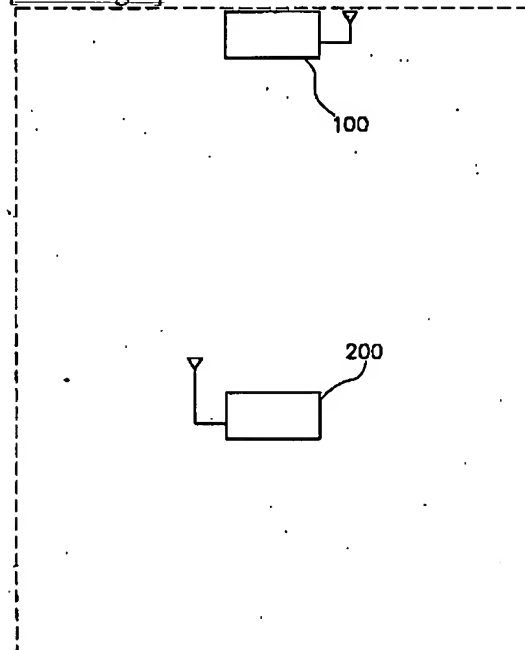
DRAWINGS

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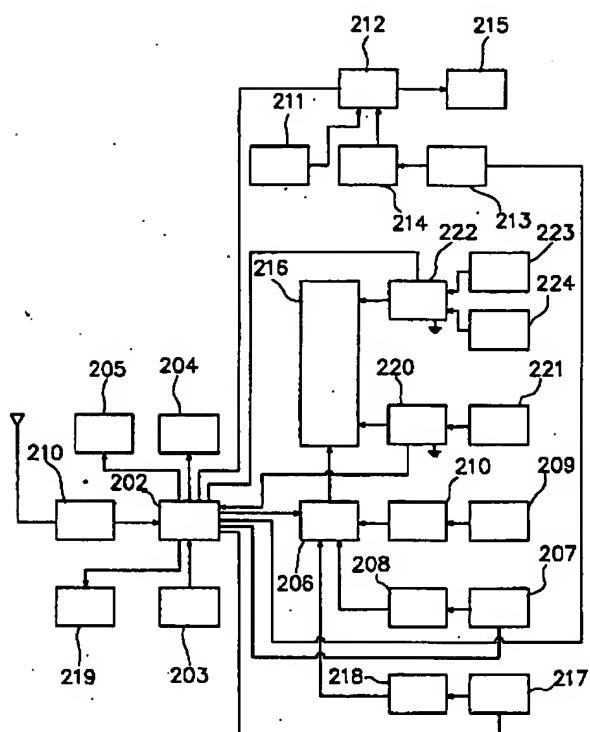
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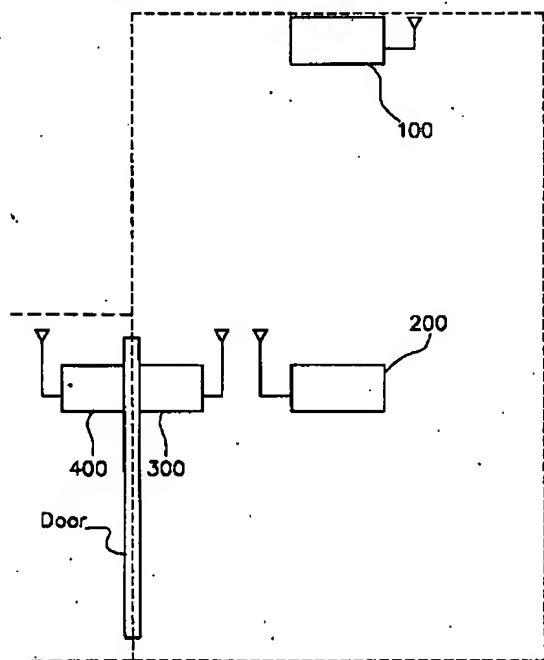
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[Drawing 3]

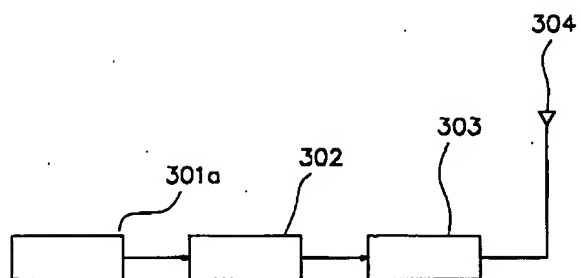


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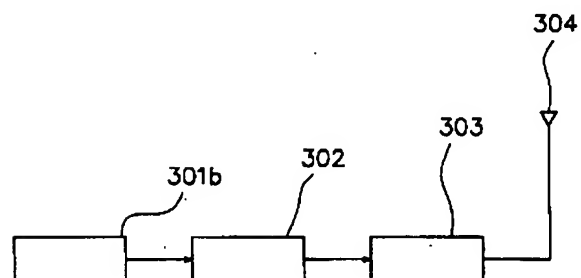


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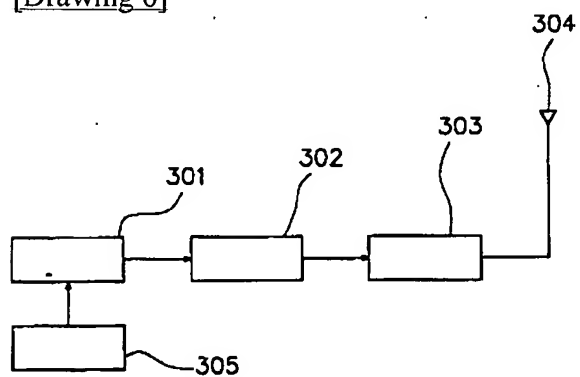
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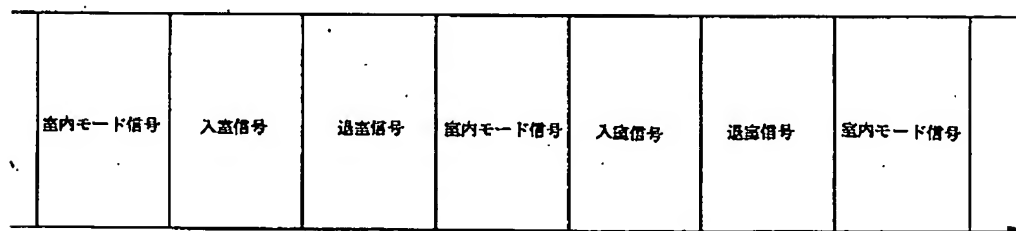
(b)



[Drawing 6]



[Drawing 7]



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[Translation done.]